

REMARKS

Claims 34-42 remain herein for examination on the merits. Claims 1-33 and 43 have been withdrawn as being drawn to a non-elected invention.

1. Claims 34-38 and 40-42 were rejected under §103 over Fritzemeier et al. in view of Fujikami et al. This rejection is respectfully traversed for the following reasons.

The claimed invention is drawn to a method for forming a superconducting tape which includes numerous processing steps including providing a substrate, depositing a buffer layer to overlie the substrate, depositing a superconductor to overlie the buffer layer, and providing a stabilizer layer overlying the superconductor layer. According to a particular aspect of the present invention, the method calls for forming the stabilizer layer by electroplating. In this regard, claim 34 has been amended herein for clarity to better define the stabilizer layer as being electrically conductive and functioning as an electrical shunt to bypass current. Support for this language is provided in paragraph 36, bridging pages 8 and 9 of the present application. As described, the stabilizer layer plays an important role in the deployment of superconducting conductors by protecting the superconductor layer from burnout under certain conditions.

Apparently, the PTO has looked to Fritzemeier et al. for disclosure of basic structural features of the claimed invention and has acknowledged that Fritzemeier et al. fail to disclose (or remotely suggest) formation of a stabilizer layer by electroplating. Accordingly, the PTO has looked to the secondary reference Fujikami et al. for such disclosure. However, Applicants respectfully submit that the PTO's reliance upon Fujikami et al. is entirely misplaced.

Foremost, the disclosure of Fujikami et al. is entirely directed to a prior generation superconductor, the so-called first-generation superconductor that relies on BSSCO superconducting filaments embedded in a silver matrix. The basic structure of this first-generation superconductor is shown in FIG. 16, depicting a plurality of superconducting filaments 161 embedded in a silver matrix 162, which is then encapsulated in a non-conducting electrically insulating layer 163. In contrast, the disclosure of Fritzemeier et al., like the present invention, is directed to second-generation superconductors, in which a layered structure is employed relying upon different superconducting materials, and additionally, removing the need to employ excessive amounts of expensive noble metal, generally silver. This second-generation tape is poised to entirely replace the first-generation superconductor, and the processing and architectural features of second-generation superconductors are entirely distinct from first-generation superconductors. Accordingly, Applicants submit that one of ordinary skill in the art would not have relied upon teaching of electroplating in Fujikami et al. in the context of the second-generation superconductor disclosed by Fritzemeier et al.

Moreover, as clearly and unequivocally disclosed by Fujikami et al., electroplating is used to form an insulating layer, which surrounds individual superconductors to prevent current flow between adjacent superconductor wires. As described in column 8, first full paragraph and Example 13 in connection with FIG. 16, Fujikami et al. describe that the outer insulating layer of the superconductor wire 160 may be formed of a paint, or alternatively formed by electroplating and oxidation to form an insulating layer. This component, insulating layer 163, is analogous to insulating thermoplastics surrounding conventional current carrying copper wires and functions to prevent unwanted current flow from the wire.

In light of the foregoing teaching of Fujikami et al., Applicants submit that one of ordinary skill in the art would not have utilized the processing taught therein to form the conductive stabilizer layer 21b of Fritzemeier et al., which functions and provide an electrical shunt to bypass current. Following the teaching of Fujikami et al., electroplating followed by oxidation would entirely destroy the functionality of the stabilizer layer of Fritzemeier et al. And, there is clearly no teaching or suggestion of utilizing electroplating without oxidation, since the disclosed layer is necessarily non-conductive. Selective reliance upon electroplating without oxidation can only be supported by Applicants' own disclosure, which is clearly inappropriate. At best, the references that the entire layered structure of Fritzemeier et al. might be covered with an insulating layer (such as by electroplating followed by oxidation) to prevent unwanted current flow from the disclosed second-generation superconductor. However, clearly Fujikami et al. do not disclose or even remotely suggest using electroplating to form a robust, properly functioning stabilizer layer.

For at least the foregoing reasons, Applicants respectfully submit that the presently claimed invention would not have been obvious over Fritzemeier et al. in view of Fujikami et al. Accordingly, reconsideration and withdrawal of the §103 rejection over these references are respectfully requested.

2. Claim 39 was rejected under §103, in further view of Moehle et al. or Hoover et al. Applicants submit that the additional secondary references fail to overcome the marked deficiencies of Fritzemeier et al. and Fujikami et al. as discussed above. Accordingly, withdrawal of this rejection is respectfully requested as well.


Applicants respectfully submit that the present application is now in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for all pending claims.

Should the Examiner deem that any further action by the Applicants would be desirable for placing this application in even better condition for issue, the Examiner is requested to telephone Applicants' undersigned attorney at the number listed below.

Applicants do not believe that any additional fees are due, but if the Commissioner believes additional fees are due, the Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

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Date _____


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